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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/674,747	09/30/2003	Matt Andrew Kaltenebach	2002-013	4215
54472	7590	06/30/2006	EXAMINER	
COATS & BENNETT/SONY ERICSSON			TRINH, SONNY	
1400 CRESCENT GREEN				
SUITE 300			ART UNIT	
CARY, NC 27511			PAPER NUMBER	
			2618	

DATE MAILED: 06/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/674,747	KALTENBACH ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Sonny TRINH	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 07 June 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-61 is/are pending in the application.
- 4a) Of the above claim(s) 11-61 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09/30/03 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Election/Restrictions*

1. Applicant's election without traverse of Group I (claims 1-10) in the reply filed on 06/07/06 is acknowledged.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 1-4, 7-10** are rejected under 35 U.S.C. 103(a) as being unpatentable over Hagedoorn (U.S. Patent Application Publication number US 2003/0045283 A1) in view of Svean et al. (hereinafter "Svean", U.S. Patent number 6,754,359 B1).

Regarding claim 1, with reference to figure 1 and description (paragraphs [0018] – [0024]), Hagedoorn discloses a wireless hearing aid capable of communicating with a mobile station (Bluetooth enabled hearing aid 100), the wireless hearing aid comprising: a short-range wireless transceiver to transmit signals to and receive signals from the mobile station (figure 1); a microphone (figure 1, MIC 110) operatively coupled to an input of the short-range wireless transceiver to convey input audio signals from a user to the short-range wireless transceiver (figure 1, BT 116); a speaker (figure 1, LS 112)

coupled to an output of the short-range wireless transceiver to project output audio signals received at the short-range wireless transceiver to the user (figure 1, see wireless connection via the Bluetooth signals). However, Hagedoorn does not disclose an interference suppression circuitry operatively connected to the microphone and the short-range wireless transceiver to suppress interference signals from the input audio signals.

In an analogous art, Svean teaches an ear terminal with microphone for voice pickup (abstract). Svean further teaches the interference suppression circuitry operatively connected to the microphone and the short-range wireless transceiver to suppress interference signals from the input audio signals (columns 4-6, specifically line 38-50 of column 4 and lines 59-67 of column 6, see also figures 1-2 and descriptions).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made to incorporate the interference suppression circuit, as taught by Svean, into the hearing aid system of Hagedoorn. The motivation for combining would be to minimize interference and noises for a more desirable system.

Regarding **claim 2**, Svean further teaches that the interference suppression circuitry comprises noise suppression circuitry (see summary of the invention in columns 1-2).

Regarding **claims 3-4**, Svean further teaches that the interference suppression circuitry comprises acoustic echo suppression circuitry and noise suppression circuitry (column 8 lines 18-41, column 9 line 50 to column 10 line 7, see also summary of the invention).

Regarding **claim 7**, Hagedoorn further teaches the audio processing circuitry operatively connected between the short-range wireless transceiver and the speaker to process signals received by the short-range wireless transceiver (figures 1-2, see descriptions).

Regarding **claim 8**, Svean further discloses that the audio processing circuitry includes at least one of an equalizer (figure 7, see also description).

Regarding **claim 9**, Hagedoorn further discloses a controller operatively connected to the short-range wireless transceiver to negotiate one or more short-range wireless network profiles with the mobile station (figure 1, see controller 118, paragraph [0020]).

Regarding **claim 10**, Svean discloses the audio processing parameters for the interference suppression circuitry (columns 4-6, specifically line 38-50 of column 4 and lines 59-67 of column 6), while Hagedoorn discloses the negotiating the one or more short-range wireless network profiles (such as the Bluetooth (figure 1, paragraphs [0018] – [0024])).

3. **Claims 5-6** are rejected under 35 U.S.C. 103(a) as being unpatentable over Hagedoorn, as modified by Svean and in further view of Enzmann (U.S. Patent Application Publication number U.S. 2004/0136555 A1).

Regarding **claim 5**, the combination of Hagedoorn and Svean discloses the invention as 1, but does not disclose that the wireless hearing aid of claim 1 further comprising switching circuitry to operatively connect the speaker and the microphone to

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the short-range wireless transceiver in a first mode and to operatively disconnect the speaker and the microphone from the short-range wireless transceiver in a second mode.

In an analogous art, Enzmann teaches an aided ear bud for a wireless phone (abstract). Enzmann further teaches the switching circuitry to operatively connect the speaker and the microphone to the short-range wireless transceiver in a first mode and to operatively disconnect the speaker and the microphone from the short-range wireless transceiver in a second mode (paragraphs [0032] – [0033]).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made to incorporate the switching circuitry, as taught by Enzmann, into the hearing aid system of Hagedoorn and Svean. The motivation for combining would be to prevent interferences between the hearing aid circuitry and the telephone mode when making/receiving a telephone call.

Regarding **claim 6**, Svean further teaches that the interference suppression circuitry is operatively connected between the microphone and the short-range wireless transceiver (figure 1, see description for details) while Enzmann teaches the different modes.

### CONCLUSION

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sonny TRINH whose telephone number is 571-272-7927. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward URBAN can be reached on 571-272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

6/15/06

  
**SONNY TRINH**  
**PRIMARY EXAMINER**